

REMARKS

In the Office Action of February 13, 2002, Claims 1 - 11 were rejected. No claim was allowed. In response, Claims 2, 6, 8 and 11 are canceled, Claims 1, 3, 4, 5, 7, 9, and 10 are amended and new Claims 12 - 15 are added to the application. Reexamination and reconsideration are respectfully requested in view of the foregoing amendments and the following remarks.

The Invention

The present invention relates to well fluid and method for drilling. The well fluid includes a partial ester of polyols with C6 - C12 fatty acids, as described more particularly on pages 4 - 6 of the specification.

Objections to Claims 4 - 6

Claims 4 - 6 were objected to as being in improper form as multiple dependent claims.

In response, Claims 4 and 5 are amended and Claim 6 is canceled. Accordingly, it is respectfully submitted that this objection is overcome.

Rejection of Claims 1 - 3 and 7 - 11 under 35 U.S.C. §112, second paragraph

Claims 1 - 3 and 7 - 11 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner alleges the following:

The Examiner alleges that Claims 1 and 7 are not clear as reciting "conventional ingredients" without specific definitions. In response, the term "conventional ingredients" is deleted from the claim.

The Examiner alleges that in Claims 1, 2, 7 and 8, it is not clear if the parenthetical term "or an oil" or "an oil" is a part of the claims. In Response, these terms are deleted.

The Examiner alleges that in Claims 2 and 8, the term "particularly" is indefinite. Claims 2 and 8 are canceled.

In Claim 3, the Examiner states that thiols and polyalkoxides are not alcohols. In response, Claim 3 is amended to change "alcohols" to "polyols", to change "thiols" to -triols-- and to clarify that the polyalkoxides are derivatives of the polyols.

In Claim 7, the Examiner alleges that the phrase "such as" renders the claim indefinite and that there is no antecedent basis for "the porous formation." In response, Claim 7 is amended to delete "such as" and is amended to depend from Claim 1, thereby providing antecedent basis for "the porous formation."

In Claim 10, the Examiner alleges that the recitation of broad limitations and narrow limitations renders the claim indefinite. In response, Claim 10 is amended to remove the narrow limitations.

Accordingly, it is respectfully submitted that all of the rejections of Claims 1 - 3 and 7 - 11 under 35 U.S.C. §112,

second paragraph, are overcome.

Rejection of Claims 1 - 3, 7 - 9 and 11 under 35 U.S.C.

§102(b) over Mueller et al

Claims 1 - 3, 7 - 9 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Mueller et al (U.S. Patent No. 4,802,998). The Examiner alleges that Mueller teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7, 9 and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. Although Mueller describes polyol esters, the reference does not disclose or suggest partial esters in accordance with the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 3, 7, 9 and 11 under 35 U.S.C. §102(b) over Mueller et al is thereby overcome.

Rejection of Claims 1 - 3, 7 - 8 and 11 under 35 U.S.C.

§102(b) over Carney et al

Claims 1 - 3, 7 - 8 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Carney (U.S. Patent No. 4,409,108). The Examiner alleges that Carney teaches a drilling fluid that comprises esters according to the claimed invention, with

similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7 and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. Although Carney discloses partial esters, the partial esters disclosed are essentially glycerol monooleate, glycerol dioleate and sorbitan sesquioleate. In these esters, the fatty acid has more than 12 carbon atoms. Thus, Carney does not disclose or suggest a partial ester of polyols with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 3, 7 and 11 under 35 U.S.C. §102(b) over Carney et al is thereby overcome.

Rejection of Claims 1, 2, 7 and 11 under 35 U.S.C. §102(b)
over Peacock

Claims 1, 2, 7 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Peacock (U.S. Patent No. 3,379,708). The Examiner alleges that Peacock teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 7 and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the

well fluid includes a partial ester of polyols with C6-C12 fatty acids. The esters disclosed in Peacock are esters of tall oil pitch and polyoxyethylene compounds. Peacock does not disclose or suggest partial esters and does not disclose or suggest esters of polyols with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 7 and 11 under 35 U.S.C. §102(b) over Peacock is thereby overcome.

Rejection of Claims 1 - 3, 7 - 8 and 11 under 35 U.S.C.

§102(b) over Rosenberg

Claims 1 - 3, 7 - 8 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Rosenberg (U.S. Patent No. 3,047,493). The Examiner alleges that Rosenberg teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7, and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. The esters disclosed in Rosenberg are triglycerides and not partial esters. Rosenberg does not disclose or suggest partial esters with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the

rejection of Claims 1, 3, 7, and 11 under 35 U.S.C. §102(b) over Rosenberg is thereby overcome.

Rejection of Claims 1 - 3, 7 - 9 and 11 under 35 U.S.C.

§102(b) over Jones

Claims 1 - 3, 7 - 9 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Jones (U.S. Patent No. 2,271,696). The Examiner alleges that Jones teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7, 9 and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. The polyol esters disclosed in Jones are glycol oleate and glycol monoricinoleate, which are greater than C12. Jones does not disclose or suggest partial esters of polyols with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 3, 7, 9 and 11 under 35 U.S.C. §102(b) over Jones is thereby overcome.

Rejection of Claims 1 - 3, 7 - 9 and 11 under 35 U.S.C.

§102(b) over Malchow Jr

Claims 1 - 3, 7 - 9 and 11 were rejected under 35 U.S.C.

§102(b) as anticipated by Malchow Jr (U.S. Patent No. 5,807,811). The Examiner alleges that Malchow teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7, 9 and 11 as amended herein. The present invention relates to a well fluid and method for drilling wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. The esters disclosed in Malchow are triglycerides and not partial esters. Malchow does not disclose or suggest partial esters with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 3, 7, 9 and 11 under 35 U.S.C. §102(b) over Malchow is thereby overcome.

Rejection of Claims 1 - 3, 7 - 8 and 11 under 35 U.S.C.

§102(b) over Mueller et al

Claims 1 - 3, 7 - 8 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by Mueller (U.S. Patent No. 5,441,927). The Examiner alleges that Mueller teaches a drilling fluid that comprises esters according to the claimed invention, with similar amounts.

This rejection is respectfully traversed as it may apply to Claims 1, 3, 7, and 11 as amended herein. The present invention relates to a well fluid and method for drilling

wherein the well fluid includes a partial ester of polyols with C6-C12 fatty acids. The esters disclosed in Mueller are esters of polycarboxylic acids. Mueller does not disclose or suggest partial esters with C6-C12 fatty acids as required by the present claims as amended.

Accordingly, it is respectfully submitted that the rejection of Claims 1, 3, 7 and 11 under 35 U.S.C. §102(b) over Mueller is thereby overcome.


Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 1, 3, 4, 5, 7, 9, 10, and 12 are in condition for allowance. Favorable reconsideration is respectfully requested.

Should the Examiner believe that anything further is necessary to place this application in condition for allowance, the Examiner is requested to contact applicants' undersigned attorney at the telephone number listed below.

Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 01-2135 (612.38836X00).

Respectfully submitted,
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IN THE CLAIMS

1. (Amended) ~~Method~~ A method for drilling or intervening in a well passing through a porous, permeable formation in which a water-based well fluid is circulating in said well, ~~characterized by~~ comprising adding to said fluid, ~~in addition to the conventional ingredients for such a fluid,~~ a maximum of ~~10 wt. %~~ 1 g/l of a composition ~~obtained by glycerolysis, by direct esterification, or by transesterification from a grease (or an oil) and an alcohol,~~ comprising at least one compound selected from the group consisting of partial esters of polyols with C6-C12 fatty acids, with the chain lengths of the ~~acide~~ acid and ~~alcohol~~ polyol parts being chosen such that ~~the~~ said partial ester thus ~~obtained~~ has sufficient dispersion in water, compatibility with ~~said~~ any other ingredients, does not form an emulsion with the reservoir oil, and adsorbs sufficiently on the porous formation.

3. (Amended) ~~Method~~ A method according to one of Claims 1 ~~or~~ 2, wherein said ~~alcohols~~ polyols, ~~thiols~~ triols, or polyols with more than 3 hydroxy functions, or mixed polyalkoxides derivatives thereof.

4. (Amended) ~~Methed~~ A method according to ~~one of the foregoing claims~~ Claim 1, wherein said composition is a partial ester of C8-C10 fatty acids and polyglycerol ester.

5. (Amended) ~~Methed~~ A method according to Claim 4, wherein said polyglycerol has between 24 and 30% glycerol, ~~preferably 27%~~, between 28 and 34% diglycerol, ~~preferably 31%~~, between 20 and 26% triglycerol, ~~preferably 23%~~, between 9 and 15% tetraglycerol, ~~preferably 12%~~, and between 4 and 10% pentaglycerol ~~preferably 7%~~.

7. (Amended) A water ~~Water~~ based well fluid for use in a method according to claim 1 ~~having conventional ingredients such as filtrate reducer, viscosifier, and heavy mineral suspensoid, characterized in that it additionally has comprising a maximum of 10 wt.% 1 g/l of a composition obtained by glycerolysis, or direct esterfication, or transesterification from a grease (or an oil) and an alcohol comprising at least one compound selected from the group consisting of partial esters of polyols with C6-C12 fatty acids, with the chain lengths of the acid and alcohol polyol parts being chosen such that the said partial ester thus obtained has sufficient dispersion in water, compatibility~~

with ~~said~~ any other ingredients, does not form an emulsion with the reservoir oil, and adsorbs sufficiently on the porous formation.

9. (Amended) ~~Fluid~~ A fluid according to claim 8, wherein said composition is a partial ester of C8-C10 fatty acid and polyglycerol ester.

10. (Amended) ~~Fluid~~ A fluid according to claim 9, wherein said polyglycerol has between 24 and 30% glycerol, ~~preferably 27%~~, between 28 and 34% diglycerol, ~~preferably 31%~~ between 20 and 26% triglycerol, ~~preferably 23%~~, between 9 and 15% tetraglycerol, ~~preferably 12%~~, and between 4 and 10% pentaglycerol, ~~preferably 7%~~.